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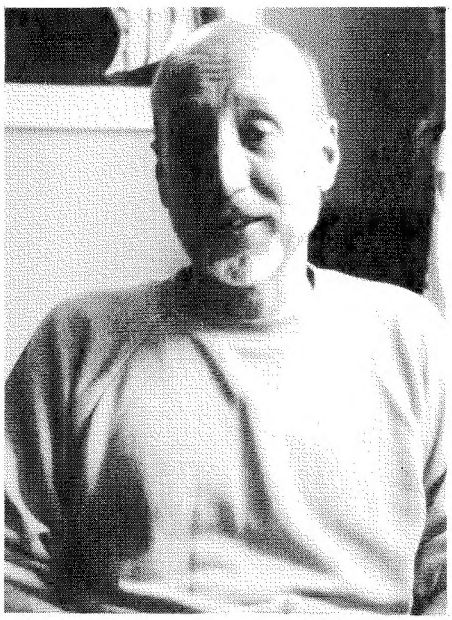
IN-VISION

DOCTOR WHO

THE ROBOTS OF DEATH

Boucher

BOUCHER talks to Jeremy Bentham about the advantages of being "young and irresponsible" when writing THE ROBOTS OF DEATH



BOB Holmes wanted a country house whodunnit. But he wanted it set in the future, preferably somewhere that moved. That was how THE ROBOTS OF DEATH came about.

The basic approach was to take something like Agatha Christie's *Ten Little Indians*, something that could be set in an isolated, claustrophobic environment.

But it became for me a very fascinating conundrum, working with the whole concept of machine intelligence and asking "at what point does machine behaviour become intelligent?" If you read a lot of mainstream science fiction writing that was published during the Sixties and early Seventies, you will find much of it populated with questions about machine life and machine intelligence. There are books like *Skirmish* by Clifford Simak, for instance: it starts as a semi-humorous piece about a writer being attacked by his typewriter and his sewing machine, and progresses into a study of aliens who have come to Earth with ideas about freeing the machines.

The Storm-miner was a nice idea, but basically it was a steal from the Sand-miners in Frank Herbert's *Dune*. I did at least have the decency to change it sufficiently so that it was actually mining storms rather than harvesting sand.

Michael Briant did a lovely job directing that story. I think he was the one who actually suggested putting all the robots into periwigs and making them all look so elegant. Certainly, in my script, I only ever referred to them as robots, with no descriptions as to what they should look like — rather like Terry Nation had done with the Daleks, I suppose.

In my mind, I did imagine them as humanoid. And they had to be sufficiently humanoid for me to be able to use the notion of 'robophobia'. That came about because, although the robots looked human, their body language was all wrong. So certain people like Poul, who responded more sensitively to body language — non-vocal communication and the like — would find it intolerable being surrounded for so long by (to all intents and purposes) walking, talking, dead men.

Poul was trained to respond to body language because he was the ultimate spy, observing and monitoring those around him for any clues to the quarry he was seeking. And being more atuned to such signalling, he was logically the man who would find it most disturbing being around robots for such lengthy periods of time — especially when things started to go wrong.

I know that all sounds very cryptic, and arguably too high-level for **Doctor Who**, but again it was simply recycling things that you had heard, read and seen that were around at the time. I wrote THE ROBOTS OF DEATH not long after the anthropologist Desmond Morris had published his major work *Manwatching*, which had made the science of body language such a big thing. I picked it up because I felt it was interesting, it was fun, and it fitted what I was trying to do with the story.

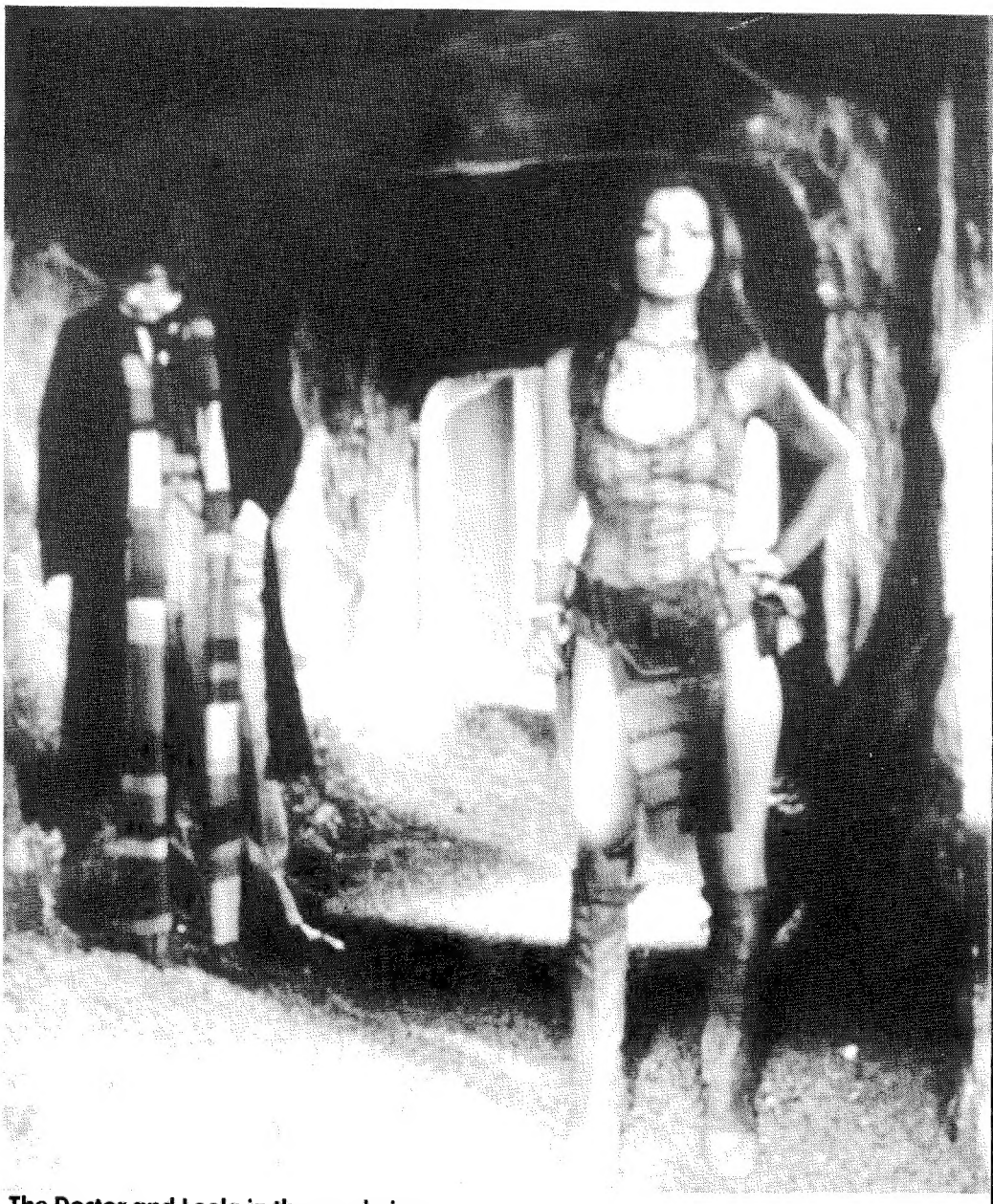
IN retrospect, I think we were lucky working for the BBC then because, although he was no longer around, we were still working to the dicta of former Director General Sir Hugh Greene. He would not allow people like Mary Whitehouse even into the buildings of the BBC. It was a big mistake, I felt, to collude in making her a media figure. She killed **Doctor Who** to a point where what was considered acceptable family viewing in the 1970s can now only be shown if some sort of restriction is applied to it.

I really do not believe that television had the effect that she, and others like Jean Rook, claim on the emotional subconscious of the viewers. I accept, and indeed hope, that it can have an effect at the conscious level — to affect ideas, to make you feel happy, or sad, or even have you on the edge of your seat. But to think that television can have a major influence on a person's psychological make-up is really to overblow the whole thing.

I consider I was lucky coming in to write for **Doctor Who** before the big Jean Rook business blew up. As a writer, you are strictly on the outside. You are rarely, if ever, privy to all the political machinations that go on. When people like Jean Rook or Mary Whitehouse attack a programme, they attack through producers, and to a lesser extent through script editors. They don't attack the writers. That is what a good script editor does — protects the writer from all that sort of thing and say, "You go ahead and write it the way you want it, and we'll worry about it afterwards".

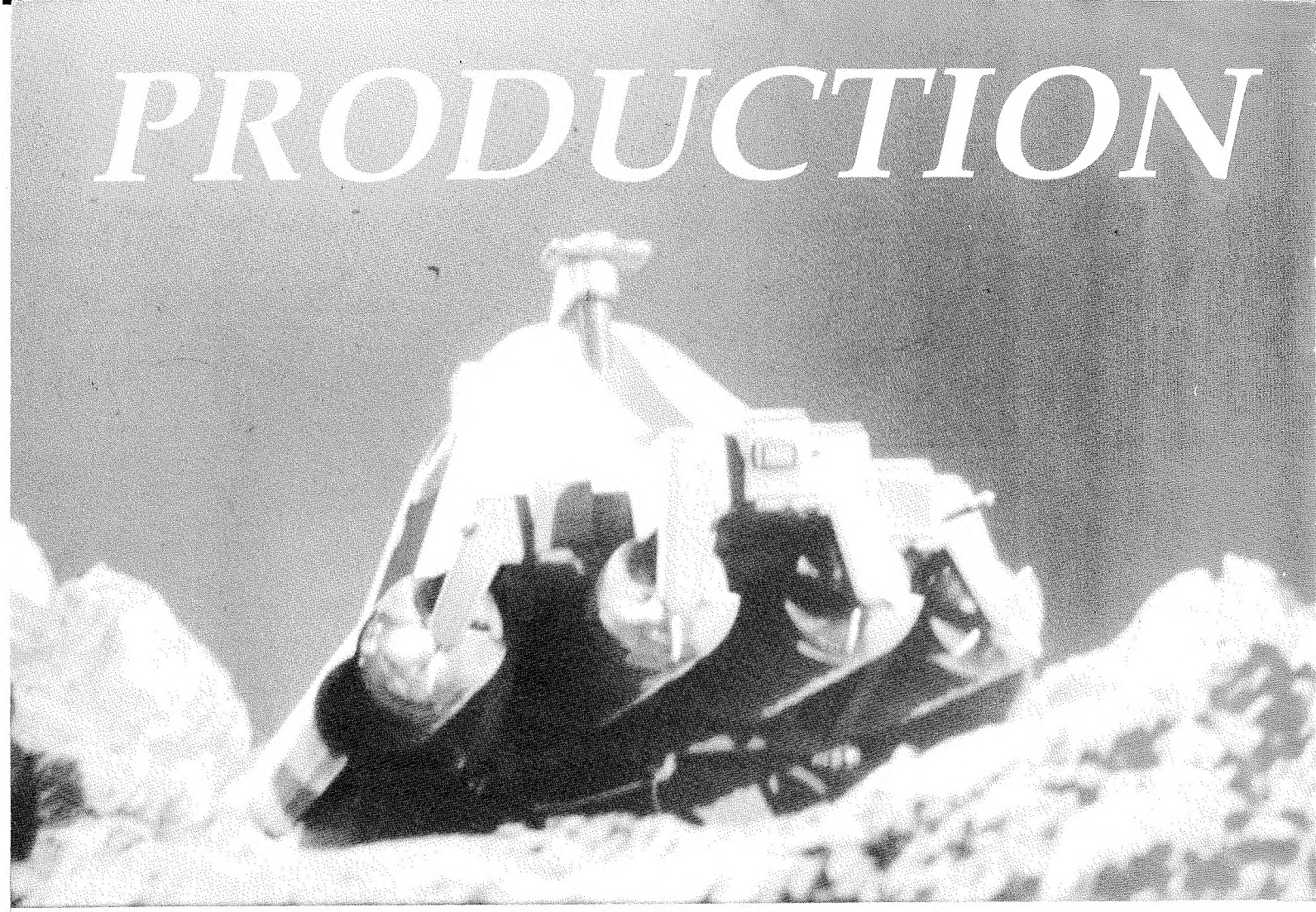
So depending on who you are dealing with, as a writer you often don't know that attacks are even happening. As far as I was concerned, the comments about Leela using knives and crossbows were never offered to me as a problem.

In turn, of course, one of the reasons why, as a script editor, you frequently have trouble writing in a free way is because you are aware of all those problems, and you try to anticipate them beforehand. That is a dumb thing to do really. You should try always to remember what it was like when you were young and irresponsible, and didn't know anything about budgets, watershed times, bad language and violence rules and the like. Writing, I believe, is such a fragile craft really. □



The Doctor and Leela in the sandminer scoop

PRODUCTION



The sandminer

WINNING an argument with Tom Baker could be difficult, but not impossible as the director of THE ROBOTS OF DEATH (serial 4R) discovered.

"Tom was in one of his difficult moods," remembers Michael Briant, "which made it terribly hard working with him sometimes. We'd called him in to film a scene where the Doctor gets trapped in a silo that suddenly starts filling up with sand. The cliffhanger is where you see him buried under the sand, with a get-out clause the following week that he had a straw in his pocket which he pokes up through the sand so he can breath.

"Well, Tom just didn't want to do this, and no way could I persuade him otherwise. Eventually I got so exasperated with him, I did the only thing you can do in such situations — which is to send for the producer.

"Philip [Hinchcliffe] and one other chap came down and I put my side of the story, which was basically, 'This is what it says in the script'.

Tom's argument was that the whole thing was far too unheroic. 'What I thought would look much better,' he said, 'was if I could throw my scarf up, loop it over a rail, pull myself free and then swing over and kick open the door.'

"At this point, Philip motioned to the person next to him and said, 'Fine. By the way, Tom, I'd like you to meet Graham, your new producer'.

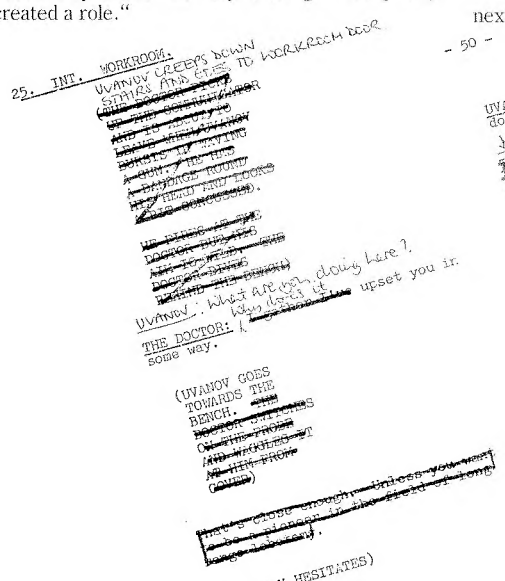
For a moment there was a stunned pause. Then Tom launched back and said, 'On the other hand, I could just poke the straw up through the sand and do it your way'."

Working with the regulars

Michael Briant had been reluctant to take on THE ROBOTS OF DEATH, feeling 'Who-ed out' after his previous work on the show: with Jon Pertwee for COLONY IN SPACE (serial HHH), THE SEA DEVILS (serial LLL), THE GREEN DEATH (serial TTT and DEATH TO THE DALEKS (serial XXX), and Tom Baker in his first season (REVENGE OF THE CYBERMEN, serial 4D — see **IN•VISION** issue 5). But this was the first time he had worked with the new companion, Louise Jameson.

Briant: "Louise is a smashing actress. Working with people like that you can always sit down and say 'Is it real? Does this really happen?' When Louise was being violent it was real, while in the story her physical violence could have turned her into a kind of superwoman. We avoided that by concentrating on realism. If in real life Louise Jameson had thumped someone as hard as she did in the story, then they'd collapse.

"Tom was very refreshing. He took the show, shook it up and it was very exciting — he quickly created a role."



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25. INT. WORKROOM.

UVANOV CREEPS DOWN STAIRS AND TIPTOES TO WORKBENCH DOOR.

UVANOV: What are you doing here?

THE DOCTOR: Why does it upset you in some way.

(UVANOV GOES TOWARDS THE BENCH.

(UVANOV HESITATES)

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UVANOV: The penalty for what you've done is death.

LOUISE: That's far enough, thief.

THE DOCTOR: I'm not touching anything.

(V4 is big)

UVANOV: I followed you.

THE DOCTOR: Yes, Sorry.

(V4 IS STANDING IN THE DOORWAY)

UVANOV: What?

THE DOCTOR: (It either followed you or it homed in on this (HOLDS OUT THIS COMMUNICATOR). Depends ex which of us it's to kill first.

Me — or —

(V4 LUNGES FORWARD TOWARDS THE DOCTOR)

Extensive changes to the closing stages of part three

Scripting

Writer Chris Boucher was commissioned to write the story after his debut success with THE FACE OF EVIL (serial 4Q, see **IN•VISION** issue 19, and interview elsewhere this issue), in which he introduced the dynamic new companion, Leela. Boucher: "It was decided that they would try Leela out as the companion for the rest of that season and it was that which led to the commission. With me overseeing that and Bob [Holmes, script editor] writing the final six-parter of the season, Leela could be safely introduced and then the team could decide whether or not to keep her on.

Bob and I met to discuss the outline for the next adventure. Bob told me that he had always

been keen on isolated outpost stories, with people trapped in claustrophobic surroundings and menaced by a force from within.

"This kind of plot can suffer from being too stationary, so I started looking for a setting which would counteract this. You have to have at least three 'curtains of interest' which you can use to bring the audience back for more the next week."Boucher found two of these in the Storm-miner, which he derived in part from *Dune*, the huge novel by one of his favourite authors, Frank Herbert. "I wanted the movement of the ship and the wind was good for atmospherics, whereas the business of chasing the storms gave me a lot of motivation for the location of the story.

"What we ended up with was a mixture of Bob's isolated outpost and Agatha Christie's *Ten Little Indians*. The robot society was probably the most novel thing about it, and even that had clear derivations. Spies and the business of spying was a very current issue then, so I had an undercover agent among the robots.

"The robot strata and the concept of the Five Families was very much a class satire, deriving from my own basically working class background and all its attendant grudges."

In the first issue of *Moonbase* (Philip Chant, Editor), Boucher explained further:

"The overall analogy I was drawing was with the old whaling ships. You signed on the ship as a civilian but accepted the authority of the master, the mate, and so on. And you set out into the ocean (desert in this case) to catch whales (find ores). If you had a skilful or lucky master, you came back with full barrels in a reasonable amount of time and you shared in the profit from the voyage after the owners of the ship (the Sand-miner) had taken an agreed return on their investment.

"The Sand-miner was owned by a business consortium, the main sharegolder in which was the planetary government (analogous to the way British Petroleum was run).

Characters

"The crew were all from the same planet, which I never named (even in my mind). The planet was an Earth colony and the time so far in the future that Earth was forgotten as the origin of the species. Or perhaps it was so far in the past that the origin of homo sapiens was forgotten — perhaps Earth is not our home planet. On the planet of the story, the Five Families referred to (and of which Zilda was a new impoverished member) were the descendants of the first colonists, and thus very upper crust. Uvanov was not, of course, a member of this elite, a fact he resented, especially as he had a yen for Zilda. He despised her background, but wanted her.

"Uvanov was the master, the captain, and his word was law once the tour (voyage) was under way. It was his responsibility to find, follow and harvest the ore streams churned up by the enormous storms. He had to use his instinct, skill, experience and luck to find the ores, as the whaleing masters found those hapless mammals.

"Uvanov's second-in-command was Toos, the pilot. Borg was the mover, responsible for the Sand-miner's motive units. The others had various duties in relation to separation, storm-tracing and so on.

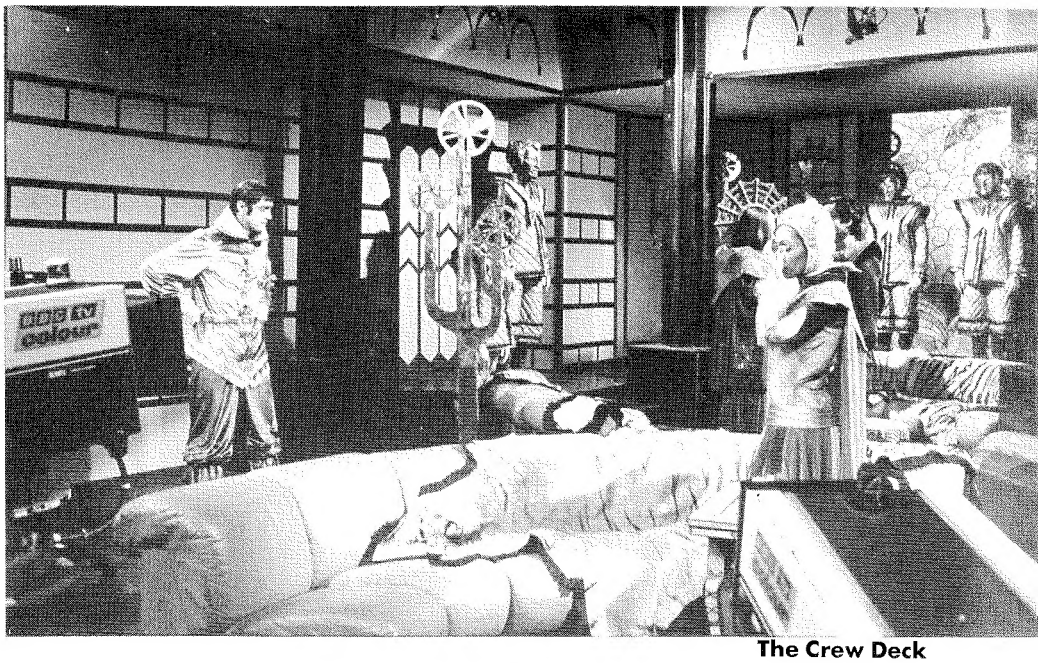
"Dask was the electronics man — as well as being Taren Capel, the robotics genius. In this sort of story I seldom, if ever, give my characters two names. One slightly strange name does it for me unless I want to set a character apart — thus Taren Capel becomes slightly more mysterious and threatening because of his two names.

"Chub was not a member of the crew. He was a government meteorologist, along to study the storms. He was an outsider to the team — a cause of friction — no matter what he said, it would have been too much. He wasn't contributing to the profit of the tour.

Poul was a government agent, as was D84 — a Super-Voc robot disguised as a Dum. Poul was there to keep an eye on the crew, D84 to watch the robots. They were working together.

The robots

"Dums were single function labour robots. Vocs could speak and had limited decision-making capacity and multiple functions.



The Crew Deck

"Super-Vocs were completely autonomous and responsible for co-ordinating the functions of all the other robots. Immensely complex and expensive, the Super-Vocs were given a permanent number when they were built. Thus SV7 was given its number at the manufacturing centre when it, and its companions were completed. Other classes of robot were given a crew number on each tour."

Design

Interviewed for **IN•VISION**, Boucher admits he had formed few impressions of how the serial should look, imagining something akin to an aircraft carrier made of steel plates and riveted bulkheads, populated by space-suited humans and large, steel-grey robots.

Director Michael Briant: "I had a terribly good designer, Ken Sharp. When we saw the script, we said 'Oh my God, not more robots!'. The leader of the robots had been written by Chris as this great big butch type, so I cast a little Scottish actor without letting Philip (Hinchcliffe) know until it was too late. I didn't want to go into the cliche of silver sets and giant robots.

"Ken and I went down to see open-cast mining operations in Cornwall to get an idea of how it was done and how our mining ship would move. Sitting in the aeroplane we said, 'What are we going to do?'. I suggested that maybe in a future society we'll be able to redecorate our offices instantly by pressing a button. I said, 'Why don't we have every room in a different historical style?'."

Prompted by the notion of a decadent society where humans were supported in luxury by robot slaves, Briant also thought of an ancient Greek theme, with nobles in togas tended by servants in tunics. "Ken then suggested the whole ship being art deco. To fit in with this and solve our cliche problem, I suggested art deco robots.

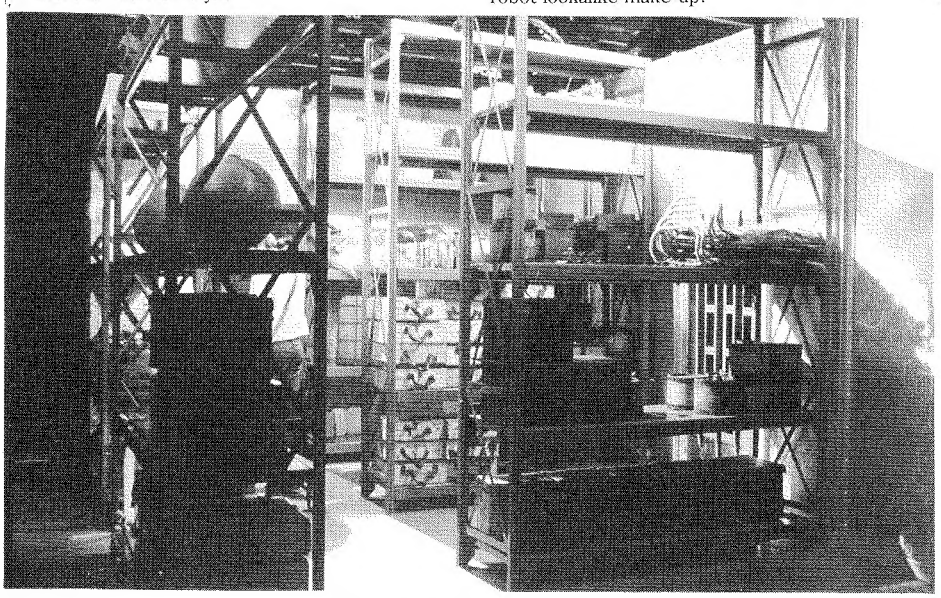
Sharp found inspiration in the work of artist Rose Garrard, whose pictures and designs epitomised the style of the twenties and thirties. The logical extension, Briant and Sharp decided, was to base everything around art deco — costume, make-up, set design, even visual effects (see also below).

Briant: "I discussed the style of the show with all the actors for about an hour — Ken brought along models of the sets and we had all these art deco reference books. With Pamela Salem we discussed how she would carry herself and move."

Chris Boucher was pleased with the result of their deliberations: "The robots said the words that were written, but completely differently to how I'd imagined them. It had never occurred to me like that but it worked, and I think Michael did a wonderful job on it."

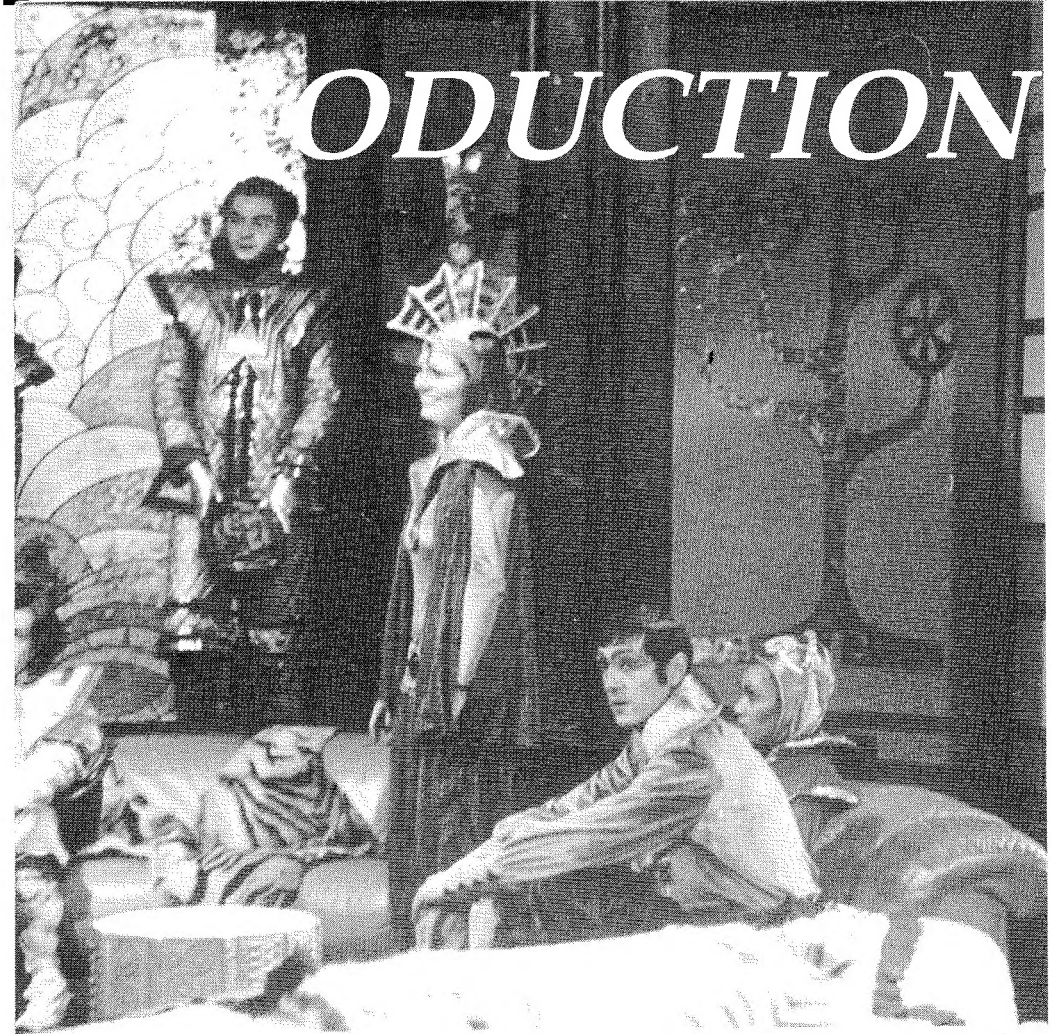
Make-up

Make-up effects by Ann Briggs and her assistants included the bruising to Uvanov's hand and Toos' neck, the colouring of robot actor's necks (see below), and the distinctive robot-like outlining on the Storm-miner crew's facial features. The largest make-up effect was when this outlining was taken to its logical conclusion by Dask/Taren Capel, for his robot lookalike make-up. ▷



The storage bay where Chub is murdered

ODUCTION



V3 has a breather between takes

Costumes

Originally John Bloomfield had been booked as costume designer for THE ROBOTS OF DEATH. But when Hinchcliffe decided he wanted him for the ' Grand Guignol finale' to the season, the job was reassigned to Liz Waller. She designed a variety of distinctive clothes for the human crew. Chris Boucher: "The costumes did not denote rank — the crew were civilians — but rather personal choice. They were a long, tedious time in the desert on a tour of duty, and it was also a reaction against the uniformity of the robots."

For the robots, two Dum costumes were made, five Vocs, and one Super-Voc. One further costume was created for the 'dummy' robot seen in the Deactivation Chamber, and in Taren Capel's workshop.

The basic costume was in three parts, cut from padded quilting: trousers, a sleeved tunic, and a tabard. Dum costumes were deep olive, Vocs metallic green, and the Super-Voc was silver. The material for SV7 was a limited distribution silver quilting, made especially for the coming 1977 fashion year which would reflect the Queen's Silver Jubilee.

The robot feet were slippers wrapped in a sock-like legging of glittery lurex, and the hands were painted washing-up gloves. To prevent the actors overheating under the studio lights, their necks were left bare, but coloured with make-up.

Masks

Visual effects created the robot masks, each one cast from fibreglass. As with a Cyberman mask, the actor squeezed his head inside the moulded headpiece, after which a small hinged triangular backplate was fitted behind the nape of the neck, fastened with strips of Velcro.

The actor could see out through tiny iris-shaped cutouts in the eyes, though even this limited field of vision was further restricted when the strips of blue ChromaKey material were taped on to enable the 'beserk' effect. (SV7's eyes had a different, 'glittery' covering to them.)

Several extra, damaged masks were provided for the Deactivation Chamber scene. Corpse markers were based on bicycle rear reflectors, and V6 was provided with a removable hand.

Visual effects also provided eight fibreglass robot collars.

Loadsa robots

The appearance of more than this number of robots was achieved simply by changing the numbers on the chest plates. Apart from Miles Fothergill (SV7) and Gregory de Polnay (D84), the robot actors played up to five robots each, all Vocs except for Peter Langtry who did the Dum parts.

The need for an illusion of so many robots required each script page to list at the top exactly which robots (for example, V16, D64, V3) were in which scene, particularly when it was necessary to differentiate the 'liberated' robots from those still loyal to the crew.

Robot voices

Realising that the robot voices would have to be dubbed on during post production, a member of the grams department devised a 'box of tricks' that would take the actors' lines and alter them so that voices oscillated rapidly up and down in pitch, from high treble to deep bass. However, that member of staff was on holiday when the device broke down during dubbing sessions. And as no-one else understood the wiring, it was dropped in favour of the actors saying their lines unmodulated.

Their level tones changed only when they were damaged.

First studio

The first studio session started on Monday 22nd November 1976. Unusually, Michael Briant used the first day for rehearsal only, recording the bulk of the serial's non-technical and non-effects scenes on Tuesday 23rd.

One of the 'small set' scenes done that week was the Bob Holmes scripted Doctor/Leela introduction in the TARDIS. ChromaKey was used for the TARDIS scanner's external view. Although no-one knew it then, this was to be the last appearance of the Barry Newbery interior, which had been designed for THE MASQUE OF MANDRAGORA (serial 4M, see **IN•VISION** issue 15) at the beginning of the season. Unused in THE TALONS OF WENG-CHIANG, the set was stored for several months and damp set into the light, plywood-paneled walls, warping them out of shape. With a new producer in charge, it was another excuse for change (see **IN•VISION** for HORROR OF FANG ROCK, serial 4V).

Model work

Another set that was smaller than it appeared on screen was the lattice-work corridor set. The illusion of greater length to these corridors was achieved by draping ChromaKey screens at several corners, or behind junction arches, and then keying in pictures of a model corridor — a cost effective way of making good use of the tight budget allocated to the story.

The scoop scenes were also a combination of live action set, ChromaKey, and a model of the working shutters and mechanical arm (seizing the TARDIS).

Storm-miner model

As the scoop interior sets were designed around the same time as the Storm-miner model, there was some lack of continuity between the live-action ducts taking in storm particles, and the model's concept. Boucher's script specified that the Doctor and Leela landed inside a gigantic mineral scoop. But instead of a JCB-style scoop and conveyor belts, Briant and Sharp thought more of gigantic water cannons on the prow of the Storm-miner that would liquify the wind-driven sands so that they could be propelled into the ship by a series of rotating Archimedian screws.

Their inspiration was taken up by visual effects designer Richard Conway, now better known for his work on movies like *The Adventures of Baron Munchausen* and *Erik the Viking*. The result was a four-foot long model, built of wood, fibreglass and plasta-board.

At the heart of the model was a battery-driven, low-gear motor which turned a motorbike chain connected to the four rotating Archimedian screws. The model had no wheels, nor any means of internal propulsion, and was moved on the large tabletop miniature set by pushing it with a pole off-camera. For close-up shots of the prow, tubes were connected behind the water cannon turrets, through which smoke could be pumped to simulate the high-power jets of water.

A strip of yellow ChromaKey material was placed across the bridge windows so that, at telecine transfer time, live-action long-distance shots from the studio could be electronically combined with a close-up of the bridge as seen from outside.

Although less than ten minutes of model footage was used in the transmitted version of the story, the crew spent half a week at Ealing Film studios

Uvanov plunges a probe while V5 holds the Doctor

shooting the Strom-miner. It was a lengthy process, described by production assistant Peter Grimwade as "soul destroying for anyone there who was not a visual effects expert".

Remembering his involvement as little more than rolling the odd rock down a slope on cue, Peter Grimwade did achieve longer-lasting fame when Tom Baker deliberately mispronounced the scripted reference to 'Gimwol's Syndrome' as 'Grimwade's Syndrome', the technical term for robophobia.

Toos – as seen by V6

Rewrites

Grimwade had more involvement in the many rewrites of the story. His initial timings of the script readthrough revealed serious under-running for episodes two and three — hence the padded addition of the whole cliffhanger surrounding the Storm-miner overheating, sinking, and then being 'refloated'.

This hefty rewrite (the original episode cliffhanger was the murder of Zilda) caused problems for Richard Conway and his assistants: it proved almost impossible to submerge and raise the Storm-miner model convincingly, anothe reason why so much footage was lost. Part of the problem was the unship-like shape of the model, which was created in the art deco style of the rest of the production.

Visual effects

A new aid to lining up ChromaKey shots was the Reframe Monitor. The images appearing on this camera-fed screen could be manipulated to simulate the effect of distorting lenses: stretching, condensing, lopping off edges, literally reframing the picture. Two particular uses of this device were: the pictures in the bridge, as seen from outside the Storm-Miner; and the stretched picture of scrolling 'Anchor'-produced text which appeared above the robot navigation consoles on the large viewing screen on the bridge.

A colour synthesiser was used to process any robot point-of-view shots. This meant many scenes were shot twice: once with a normal pedestal camera, then again with a hand-held camera with colour enhancement. The exception was V5's attack on Leela, for which the knife throw was not repeated for the hand-held recording.

The key SV7 reprogramming scene also made use of colour enhancement to disguise the identity of the true villain Dask, whose face appears on the workshop monitor.

Second studio

Most of these technical scenes were recorded in the second, three-day recording block, which started on Sunday 5th December. As bebfore, Briant used the first day for rehearsals only, recording on Monday and Tuesday. These were long recording days: 14:30 to 17:30, a break for lunch and more camera rehearsals, then 19:30 to 22:00.

Fights and explosions

The fight scenes required most attention, especially as they included pyrotechnic sequences. This was unusual, since they would ordinarily have been pre-shot on film.

For the scenes of robots exploding (for example, D84), locked off cameras (their operators away from them) recorded the stunts. The staggered zooms were achieved later with the Reframe Monitor.

More explosions were needed for the blaster pack destruction of the Voc robot entering the bridge in episode four. To do this, two vent grilles had to be built — one intact, the other exploded. This made it possible to use a smaller pyrotechnic charge, and avoid damage to the set.

Other effects

For the point of view shots of robots affected by the brain-damaging input of a Laserson Probe, a rotating multi-image lens was fitted to the camera.

For the sequence in Taren Capel's workshop, an actor hidden beneath a work bench provided the twitching robot hands.

The ChromaKey 'beserk' effect in the robots' eyes was an inlay of nothing more complex than a board covered in glitter.

The effect of SV7 being taken over by Taren Capel was achieved by fast intercutting between the two faces, SV7 tilting his head slightly to one side.

Cuts

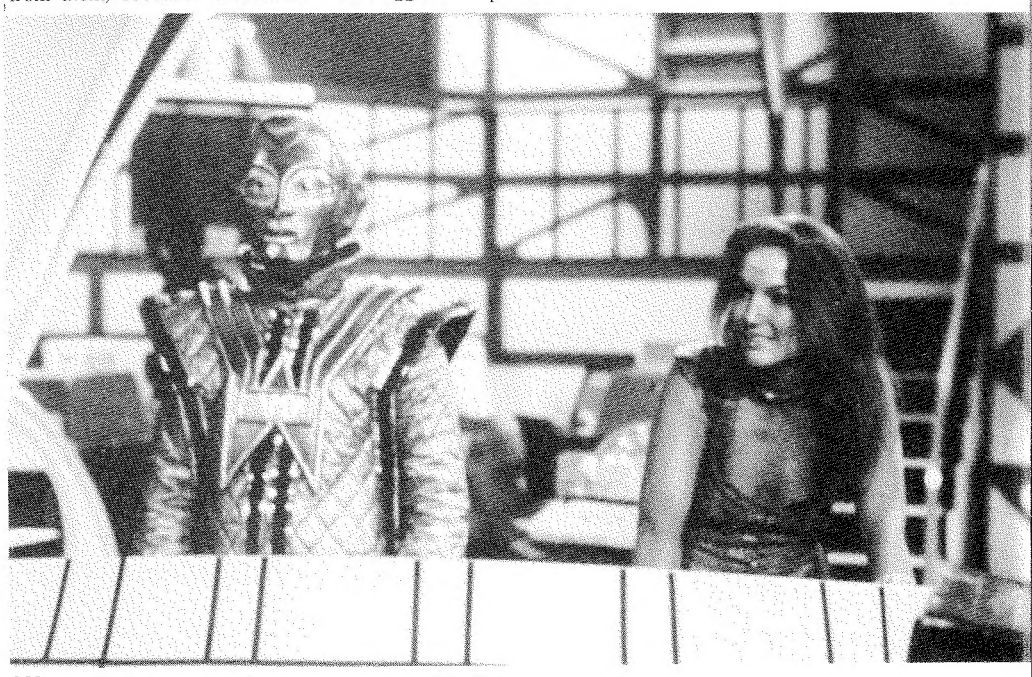
Prone to late changes and rewrites all through the production, Briant had to lose the original ending to episode three: SV7 appearing in the corridor after Toos has been rescued from her cabin, ordering the Vocs to "Kill them".

Transmission

Recording finished on December 7th, in time for Christmas. It gave Michael Briant time to edit and sypher dub the show to his satisfaction before transmission in late January. It was a luxury he would not have had if the broadcast season had not been interrupted after THE DEADLY ASSASSIN (serial 4P, see **IN•VISION** issue 18). Scheduling and other production difficulties had brought the series perilously close to transmission catching up with the programme-making — hence the unusual break in the season Philip Hinchcliffe was forced to make.

Trivia

V45 was the first robot to be taken over. Leela still has the Tesh gun from THE FACE OF EVIL. The robots stay level when the Storm-miner tilts. The planet is unnamed, but named locations include Colano Beta (where the Doctor saw a similar set-up) and Kaldor City. The tour of duty lasts two years, of which the crew have completed eight months. On page 43 of the Terrance Dicks novelisation, Cass makes an appearance, despite having been killed in the previous chapter. And Russell Hunter was cast against type as the domineering Uvanov — he used to play Lonely in **Callan** — and grew his beard specially for the part. □



V9 and Leela on the Control Deck

The Complete ROBOTS

CRAIG HINTON assesses this attempt at the definitive Asimov-style robot story, and discusses the similarities and differences between the Good Doctors

IN 1940 the American writer Isaac Asimov wrote the short story *Robbie* (included in the anthology *I, Robot*). It was to change the course of history. Robbie was a cybernetic nursemaid: within the positronic pathways of its platinum-iridium brain were absolute laws of robotic behaviour that would become a template for science fiction. From this beginning Asimov would forge a galactic empire, determine its fall, and map out human evolution over twenty thousand years. Yet he would begin and end with the Positronic Robot.

Robots have always been a mainstay of science fiction, even before Karel Kapek (the source name for Taren Capel) wrote *Rossum's Universal Robots* in 1921 and gave them a name. From *Metropolis* to *Star Wars*, via *Forbidden Planet* and *2001: A Space Odyssey* they have joined rayguns and starships as concepts inextricably linked to science fiction. Naturally **Doctor Who** has had its fair share: the War Machines, the Quarks, the Mechanoids . . . Yet when producer Philip Hinchcliffe was scouring the great works of science fiction for inspiration it became obvious that, with few exceptions, **Doctor Who** robots had been malevolent monsters. The time had come for a definitive robot story, Asimov style.

Asimov has written over thirty short stories about his positronic robots, exploring the ambiguities of their in-built rules. He has expanded upon this idea in his Robot novels. In 1976 only two of these had been published: *The Caves of Steel* and its sequel, *The Naked Sun* (he has since written two more, linking fourteen novels into a complex future history spanning over twenty thousand years).

The original two novels concerned the detective team of Elijah Baley and R. Daneel Olivaw. Baley is a typical Terran human, terrified of open spaces and with an intense dislike of robots. Olivaw, in contrast, respects all the virtues of his home world — the human colony of Aurora. He is tall, handsome and intelligent. He is also a perfect cybernetic replica of a human being — an android. The novels spend a considerable amount of time exploring the complex relationship between human and robot, with Baley constantly stressing his *human* superiority by showing the limits of the logical robot mind. Compare Baley and Olivaw with the detective team of Poul and D84: the inanimate, impossible D84 demonstrates more humanity than the unbalanced Poul. One wonders why the Company teamed a robophobe with a cybernetic partner.

Poul is unbalanced by his fear of robots. Taren Capel's insanity derives from his upbringing by robots — he grows up to believe them superior to "weak creatures of flesh and blood". (Here is a man who would have fitted in perfectly on Mondas.) Finally slipping into madness, Capel thinks of himself as a robot and his fellow humans as weak and out-dated. In Asimov's universe the robopsychologist Susan Calvin, one of the creators of the positronic robot, considers them "a cleaner, better breed than we are". And on Olivaw's home planet of Aurora "distinctions between robots and human beings are avoided".

In Asimov's future history, the Spacers have left the degenerate Earth and have colonised fifty worlds. Although robots were invented on Earth in the 1990s, they are shunned there. On the Spacer worlds the opposite is true. The civilisations of Solaria and Auroria in particular have embraced the robot sub-culture to a point where they rely on the cybernetic caste. The robotic masseurs of Kaldor City are matched by the robotic butlers, chauffeurs and lovers of the Spacer worlds. In *The Naked Sun* Asimov carries the concept to its extreme: the inhabitants of Solaria are pathologically afraid of social contact with other humans — they even reproduce *in vitro*. Each Solarian is supported by ten thousand robots: remove them and Solarian civilisation would collapse (twenty thousand years later the Solarians achieve total self-sufficiency by becoming cybermen). Even on Earth-like Aurora the next wave of galactic colonisation is planned using only robots.

AS with Solaria, Aurora, Melpomenia and the other Spacer worlds, the civilisation of Doos and Uvanov's planet is built upon a foundation of metal, plastic and electronic circuitry. As the Doctor points out to Poul, if a human needs help he will automatically call for a robot. Yet what of the converse? Asimov's and Boucher's robots exist to serve humanity: they are *built* for that. Unlike the slaves of the ancient world, or of eighteenth and nineteenth century America, robots have no purpose but servitude. Both Taren Capel and Susan Calvin regard robots as superior; more efficient they may be, but they are creatively sterile. Capel's bid to release his "brothers from bondage" is nothing of the sort. They would merely exchange slavery to a race for slavery to one man, Capel. With his death, the robots would slip into inactivity, waiting for a human to give them orders. As the Doctor tells Capel, robots would have no existence if it were not for humans.

Robots are artificial human beings, designed to serve. They lack souls and emotion. Behind the sculpted face lies a mass of complex circuitry, not a mind capable of feelings. Unlike Elijah Baley's *rational* dislike of robots — they represent the Spacers' superiority over Terrestrian Man — Poul's psychological hatred stems from the robots' lack of soul. Man has trespassed into God's preserve and created life in his own image. But it is an empty, cadaverous form of life that reinforces the fragility of flesh and blood. Baley asserts his superiority by using human failings to succeed over a robot's logic; the crew of the Sandminer assert theirs by constantly insulting the "tin brains", something which is obviously pointless. It is not surprising that Asimov describes the human fear of robots as "The Frankenstein Complex".

Yet something must hold this innate fear of robots in check. Some other factor must prevent robophobia from overriding humanity's dependence and removing these soulless slaves. According to Asimov all positronic brains are initially programmed with the Three Laws of Robotics:

1. A robot may not injure a human being, or, through inaction, allow a human being to come to harm.

2. A robot must obey the orders given it by human beings except where such orders would conflict with the First Law.

3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

In **Doctor Who** the First Law is imprinted on the robots' brain as the *Prime Directive* — "the first program laid into any robot's brain, from the simplest Dum to the most complex Super-Voc". Even the prototype robot K-1 from ROBOT (serial 4A, see **IN•VISION** issue one) possesses the same constraints. Having allowed robots to permeate their society to the point of complete dependence, Poul's society is incapable of comprehending a hostile automaton — its very existence ▷

Taren Capel prepares to hoodwink another Voc

◁ would threaten the foundations of their civilisation. Hence there are "over a million multi-level constrainers" within the cybernetic mind designed soley to reinforce the Prime Directive. But what man has created, man can destroy .

BOTH Professor Kettlewell (in ROBOT) and Taren Capel are able to reprogram their robots to bypass the First Law, presumably by creating a further law with higher priority. Kettlewell's robot is persuaded to kill for the good of humanity rather than the individual man, and in Asimov's *Robots and Empire* a Zeroth Law is devised to override the First Law:

0.A robot may not injure humanity, or, through inaction, allow humanity to come to harm.

Yet in both THE ROBOTS OF DEATH and the Asimov canon the deep-rooting of the First Law is obvious. When SV7 is reprogrammed he briefly develops a stutter. In *The Naked Sun* a robot tricked into poisoning its master begins to limp and lisp when it realises. Another whose own detachable arm is a murder weapon burns out its positronic brain as a result. The occupants of the Sandminer are correct in their belief that the Prime Directive cannot be disobeyed — but Taren Capel is able to change it.

When the remainder of the crew become aware of the true threat, panic sets in. The unflappable Toos is reduced to hysterics when her cabin is beseiged by V6. When Uvanov believes that the Doctor has tampered with the Prime Directive he says the penalty is death. And why not — it is a form of blasphemy. The Prime Directive is the most important of man's Commandments to his creation, Robot. It is the only thing that restrains humanity's natural, latent robophobia. In *Robots and Empire* when Daneel Olivaw hesitantly explains the law that transcends the First Law, his robotic companion whispers: "Friend Daneel, you must not say that. Nothing transcends the First Law." It has become a matter of robotic faith, which makes Olivaw a heretic. As as on the world of THE ROBOTS OF DEATH the penalty is severe.

But the advanced society that uses robots for the menial work is also a stagnating one. If all needs can be satisfied by robots, mankind loses the desire to achieve. Twenty thousand years into Asimov's future the robot civilisations have collapsed — humanity has lost its incentive. As Uvanov notes, Man is necessary because the robots lack instincts. But instinct is exactly what D84 seems to be developing — threatening to make humans redundant.

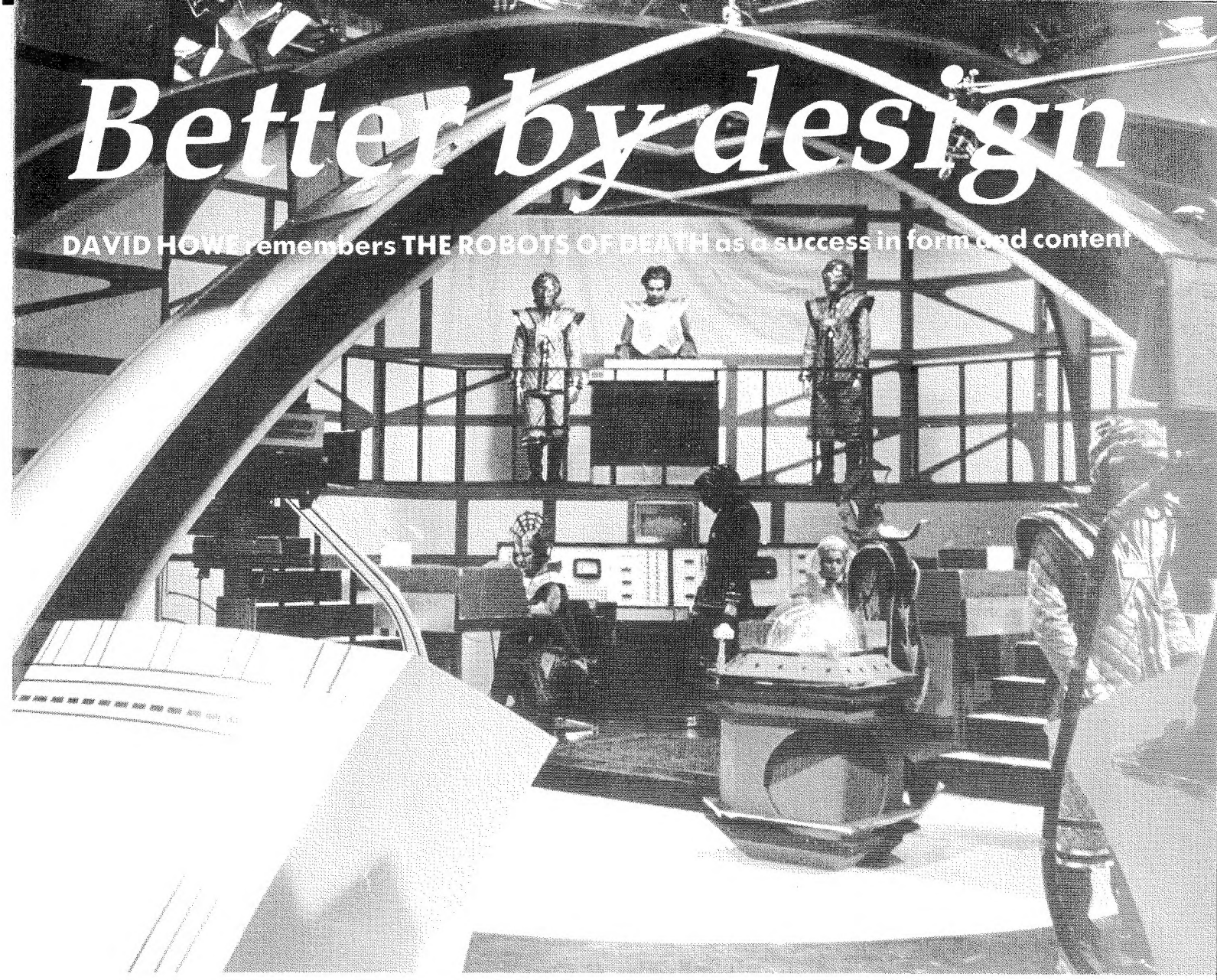
The society depicted in THE ROBOTS OF DEATH represents a very delicate balancing act dependent on the equilibrium between the Prime Directive and robophobia. When the concept of a robot rebelling is discussed in part one it is in the form of a joke. When Borg is faced with a haywire robot he acts before he can consider the underlying concept. Right up to his death Chub does not believe that the robot will actually harm him even though it is not obeying his orders. Yet Poul, the most sensitive of them, needs only to see Borg's blood on the 'dead'robot's hand in order to understand the consequences — and his knowledge drives him mad.

The delicate balance of fear can be upset by malfunction — as in Chub's tall-story of the haywire Voc therapist twisting a man's arm off — or deliberately. Either, the Doctor predicts, would destroy civilisation. And were there to be another Taren Capel... □

Taren Capel returns to his robotic roots

Better by design

DAVID HOWE remembers THE ROBOTS OF DEATH as a success in form and content



CHRIS Boucher's original concept for this story was of a ship on the high seas — and from the opening shot, the similarity is there.

Instead of waves, there is a landscape of rocks and whistling sands. Instead of a tall-masted ship, the impressive gleaming bulk of the Sand-miner, cutting through the swell of dust and maintaining a steady keel through the rocky wasteland. This short but impressive piece of modelwork proved to be just a foretaste of things to come.

We are quickly introduced to the crew, split unequally between the robotic and the human: for once, the menace is visible from the outset. Indeed, it is perhaps the title that lets the story down: the viewer knows who the killer is, even before the first murder. But the staple of most thrillers is that the viewer knows what the characters do not.

The story is well-structured: the opening scenes — moving from planet to mine to robots to humans — introduces all the main concepts individually. And the first scene shows one of the most basic themes: humanity's unease with robots.

The humans relax as the mine ploughs on under robot control. There is an unsettling cautionary tale being recited by the outsider, Cub, of a rebot therapist that ripped off a man's arm without warning. Dask calmly states this is impossible, establishing his credentials as someone who knows about these "creepy mechanical men". Commander Uvanov is soundly trounced at chess by V9 ("Mate in eight moves, commander"), showing they are unbeatable. The scene aptly establishes the characters, and we are thinking about the story's prospects already.

And when the Doctor arrives, the plot starts. If he had not turned up, one can suppose that the humans would be long-dead, and the mine under the control of Taren Capel and his robot revolution — unless the robots decided that he too was not worth saving.

THE ROBOTS OF DEATH is the classic Whodunnit. The characters are killed off one by one until the survivors can work out who the killer is. And by that time, it would usually be too late. There are few clues to the murderer's identity, except for a classic gaffe in episode two in which sharp-eyed viewers could have compared the trousers worn by the crew with those of the unknown person directing a robot to kill Zilda.

Perhaps the only further twists possible would have been the make the murderer one of the women, or one of the crew killed first (another tried and trusted detective story ploy). However, as a plot the story works exceedingly well, and brings over the claustrophobia and mystery of death in a cut-off community. (The same plot was tried in episodes 9 to 12 of THE TRIAL OF A TIME LORD, serial , but it was too confused and jumbled to work properly.)

But plot alone is not why this story really works. For once on a futuristic story, the BBC design departments seemed to have talked together about how to realise the show. There is obvious attention to detail.

For example, the robots themselves: more interesting than a blank face and a silver jumpsuit, they have a beautiful, flowing design. This concept is carried into the decor of the sets, with comfy couches, throw pillows and illuminated designs adorning the walls. Flowing lines abound, and the whole aspect is aesthetically pleasing.

The costumes for the human characters are rich in colour and texture, and the headdresses almost regal. Even the make-up displays the flowing lines and contours too. Interesting that it echoes the robots: a small touch, but one that demonstrates how the production holds together.

Also worth mentioning is the music: Dudley Simpson's marvelously effective throbbing heart-beat theme for the approach of the robots, full of menace and expectation. This is used to its full effect, adding tension, providing false alarms as apparently sinister robots then prove to be going calmly about their duties.

The robots are fascinating to watch: their faces serene and calm, their movements precise and ordered. They are dependable and loyal, and therefore above suspicion as the murderers in the crew's eyes. Full marks too to director Michael Briant who gave the impression that the Sand-miner was full of robots, although there were only six actors playing them (plus SV7 and D84).

The approach to the show is in common with the rest of the season. THE MASQUE OF MANDRAGORA (serial 4M) was a faithful reproduction of Renaissance Italy, followed by a contemporary Earth setting (THE HAND OF FEAR, serial 4N), and a brooding and decaying Gothic Gallifrey (THE DEADLY ASSASSIN, serial 4P). Then comes the oddball of the season, in which technology and savagery somehow went hand-in-hand, with the former losing out a little (THE FACE OF EVIL, serial 4Q). To close the season off was one of the best ever examples of Victorian melodrama played out in **Doctor Who**, THE TALONS OF WENG-CHIANG. All these stories displayed a comitment to the entire production, not concentrating on any single aspect of it, but pooling the talents to come up with the goods. □

CONTEXT

CAST

DR WHO ..... Tom Baker
LEELA ..... Louise Jameson
COMMANDER UVANOV ..... Russell Hunter
PILOT TOOS ..... Pamela Salem
CHIEF FIXER DASK TAREN CAPEL) ..... David Bailie
ZILDA ..... Tania Rogers (1-2)
CASS ..... Tariq Yunus (1-2)
MOVER BORG ..... Brian Croucher (1-2)
CHUB ..... Rob Edwards (1)
CHIEF MOVER POUL ..... David Collings
SV7 ..... Miles Fothergill
D84 ..... Gregory de Polnay
ROBOTS
Mark Blackwell Baker (V14, V21, V46, D62), John Bleasdale (V16, V19, V68), Mark Cooper (V6, V32), Peter Langtry (D33, D39, D64), Jeremy Ranchev (V2, V4, V9, V17, V28), Richard Seager (V3, V5, V8, V45)

Small & non-speaking

KERRIL ..... Peter Sax (1)

CREW

PRODUCTION ASSISTANT ..... Peter Grimwade
ASSISTANT FLOOR MANAGER ..... David Tilley
DIRECTOR'S ASSISTANT ..... Maggie Lewty
FLOOR ASSISTANTS ..... Tony Vanden Ende
STUDIO LIGHTING ..... Duncan Brown
TECHNICAL MANAGER ..... Dickie Ashman
STUDIO SOUND ..... Tony Millier
GRAMS OPERATOR ..... Andy Stacey
VISION MIXERS ..... John Duncan
ELECTRONIC EFFECTS ..... A. J. Mitchell
CREW 13
FILM CAMERAMAN ..... Peter Chapman
COSTUME DESIGNER ..... Elizabeth Waller
MAKE-UP ARTIST ..... Ann Briggs
MAKE-UP ASSISTANTS
Anne Spiers, Heather Squires, Judith Dalton
Judith Dalton
VISUAL EFFECTS DESIGNER ..... Richard Conway
DESIGNER ..... Kenneth Sharp
INCIDENTAL MUSIC ..... Dudley Simpson
SPECIAL SOUND ..... Dick Mills
PRODUCTION UNIT MANAGER
Christopher D'Oyly-John
WRITER ..... Chris Boucher
SCRIPT EDITOR ..... Robert Holmes
PRODUCER ..... Philip Hinchcliffe
MODEL SEQUENCES DIRECTOR ..... Peter Grimwade
DIRECTOR ..... Michael E. Briant

TRANSMISSION

Part 1: 29th January 1977, 18.20.13 (24'06")
Part 2: 5th February 1977, 18.22.06 (24'15")
Part 3: 12th February 1977, 18.22.54 (23'51")
Part 4: 19th February 1977, 18.23.40 (23'42")

REPEAT

Part 1 (compilation or original parts 1 and 2): 31st December 1977, 18.28 (46')
Part 2 (compilation of original parts 3 and 4): 1st January 1978, 17.45 (45')

FILMING

2-5th November, 1976
BBC Television Film Studios, Ealing and BBC Visual Effects Workshop

RECORDING

22nd November 1976 (camera rehearsals), 23rd November 1976
5th December 1976 (camera rehearsals), 6th, 7th December 1976

FILM

Part 1: 113' (16mm sound)
Part 2: 68' (16mm sound)
Part 3: 20' (16mm sound)
Part 4: None

MUSIC

Dudley Simpson, performed by ad hoc orchestra of 6, conducted by Dudley Simpson
Part 1: 9'03", 1'28" (Tchaikovsky *None But The Weary Heart*, arr. Dudley Simpson), 10" (Orchestra with Dudley Simpson from *In A Covent Garden Electrophon*, Polydor 2383210), 20" (Debussy *Girl With The Flaxen Hair*, arr. Dudley Simpson; from *In A Covent Garden Electrophon*, Polydor 2383210)
Part 2: 7'42"
Part 3: 11'56"
Part 4: 6'05", 4" (Brian Hodgson – TARDIS materialisation)

REFERENCES

LITERATURE

ASIMOV, Isaac (in suggested reading order):
I, Robot (Doubleday, 1950 short stories originally published 1941-1950)
The Rest of the Robots (Doubleday, 1964 short stories originally published 1942-1957)
The Bicentennial Man (Doubleday, 1976)
The End of Eternity (Doubleday, 1955)
The Caves of Steel (Doubleday, 1954)
The Naked Sun (Doubleday, 1957)
The Robots of Dawn (Doubleday, 1983)
Robots and Empire (Doubleday, 1985)
The Currents of Space (Doubleday, 1952)
The Stars Like Dust (Doubleday, 1951)
Pebble in the Sky (Doubleday, 1950)
Prelude to Foundation (Doubleday, 1988)
Foundation (Doubleday, 1951 short stories originally published 1942-1944)
Foundation and Empire (Doubleday, 1952 - short stories originally published 1945)
Second Foundation (Doubleday, 1953 – short stories originally published 1948-1950)
Foundation's Edge (Doubleday, 1982)
Foundation and Earth (Doubleday, 1986)
CHRISTIE, Agatha. *Ten Little Indians*
DICKS, Terrance. *Doctor Who and the Robots of Death* (Target, 1979)
HERBERT, Frank *Dune* (1965)
KAPEK, Karel *Rossum's Universal Robots* (1921)
MORRIS, Desmond *Manwatching*
SIMAK, Clifford D. *Skirmish*
TULLOCH, John and ALVARADO, Manuel. *Doctor Who: The Unfolding Text* (Macmillan, 1983)

ARTICLES

Celestial Toyroom July 1978
Destiny 8, September 1985 (Review by Martin Wiggins)
Doctor Who Bulletin 31, February 1986 (Michael Briant interview)
Doctor Who Digest 5, May 1977 (Review)
Doctor Who Magazine Winter special, 1986 (Chris Boucher interview)
Doctor Who Magazine 97, January 1985 (Michael Briant interview)
Doctor Who Magazine 138/139, June/July 1988 (Season 14 flashback)
Citizen of the Universe December 1983
DWAS Yearbook May 1978 (Review by Gordon Blows)
Friends of Tom Baker 15, December 1978
Gallifrey 4, May 1978
Gallifrey 7, December 1978
IN•VISION 1, January 1988 (Tim Robins on robots)
Moonbase 1, January 1979 (Boucher on THE ROBOTS OF DEATH)
Oracle 2/8, May 1979
Radio Times w e 4, 11, 18, 25 February 1977
Spectrox 6, May 1988 (Review by Martin Wood)
Tardis 2 2, February 1977
Tardis 2/3, April 1977 (Critical review by Owen Tudor)
Tardis 2/4, May 1977
Tardis 2/5, July 1977
Time Watcher September 1984 (Comments by Nick Briggs)

TELEVISION

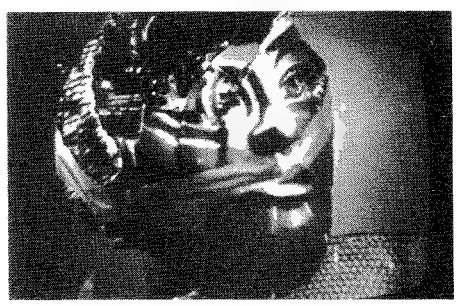
Callan (ATV)
MASH (BBC2)
Ronnie Corbett's Saturday Special (BBC, 1977)
Sight and Sound (BBC2)

VIDEO

Doctor Who The Robots of Death (BBCV2030, 1986)

FILMS

2001: A Space Odyssey (Stanley Kubrick, 1968)
The Adventures of Baron Munchausen (Terry Gilliam, 1989)
Erik the Viking (Terry Jones, 1989)
Forbidden Planet (Fred M. Wilcox, 1956)
Metropolis (Fritz Lang, 1926)
Star Wars (George Lucas, 1977)



IN•VISION ISSUE 21:

THE TALONS OF WENG-CHIANG

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THE ROBOTS OF DEATH

DOCTOR WHO

Serial 4R

CAST AND CREDITS

Doctor Who	*Tom Baker*
Leela	*Louise Jameson*
Uvanov	*Russell Hunter*
Toos	*Pamela Salem*
Poul	*David Collings*
Dask	*David Bailie*
SV7	*Miles Fothergill*
D84	*Gregory de Polnay*
Cass	*Tariq Yunis*
Borg	*Brian Croucher*
Zilda	*Tania Rogers*

Written by Chris Boucher

Produced by Philip Hinchcliffe

Directed by Michael E. Briant

Colour videotape Recording Nos.:
B14067; 14330 - 14332

The Doctor has now accepted Leela as his travelling companion, and is managing to indoctrinate her with the rudiments of science and to discourage her from thinking that anything unusual is caused by magic. He has even managed to stop her from carrying a cross-bow — although she still surreptitiously keeps her knife. And although the Doctor ridicules her when she feels that something is wrong, all too often she is proved right.

The two travellers land in the Tardis inside a giant mobile sand-miner on a distant planet; a piece of equipment run entirely by robots except for a very small group of human beings in command.

As they land there is a series of inexplicable murders, and at once suspicion falls on them. As the Doctor attempts to solve the mystery, the sand-miner is sabotaged and the robots, programmed never to harm humans, begin to turn against them.

In a last desperate gamble the Doctor tracks down a mad scientist — disguised as one of the crew — who has identified with the robots and is determined to make them rule the world. Appropriately he is killed by one of the automata he has adapted to his own ends, and a take-over by the robots is averted.

As the surviving members of the crew wait for a rescue ship, the Doctor and Leela depart in the Tardis for another adventure.

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Audience

PRE-PUBLICITY for the content of THE ROBOTS OF DEATH was limited. This was especially true in comparison to the coverage given to the launch of the new companion, Leela. But most of Fleet Street was hungry for news on **Who** in 1977. So the tabloid dailies and gossip periodicals did carry some promotional hype about Pamela Salem's appearance in the story.

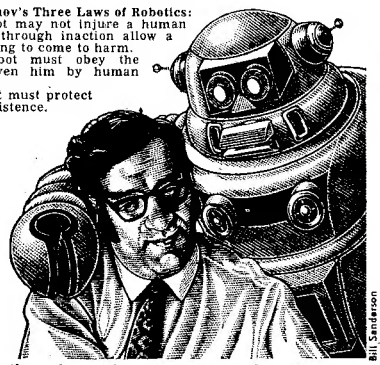
Unusually, Saturday publicity for part one used photographs showing the new robot "monsters", a factor which probably helped contribute to the extra million viewers who watched that episode.

And the viewing figures did not tail off over the next few weeks. Part three, traditionally the low-point on the ratings graph, achieved an audience of over thirteen million — a peak which even the following story, THE TALONS OF WENG-CHIANG (serial 4S, see next issue) did not reach.

But THE ROBOTS OF DEATH was not up against much opposition. As many journalists and feature writers were to conclude, it was as if ITV had agreed to surrender Saturday evening audiences to the BBC. Faced even with limp offerings like Ronnie Corbett's variety shows and reruns of old Dirk Bogarde 'Doctor' films, the best the independent companies could offer was less well-fronted variety and quiz programmes. Even these were not networked consistently across the regions.

If anything, BBC2 was making more of the running, bolting together its popular 'serious' rock show **Sight and Sound** with the hit US series **M.A.S.H.**

Because of the strength of some of its material, THE ROBOTS OF DEATH was kept in a 6:20 timeslot. The after-6:15 position most heavyweight **Doctor Who**s had occupied since the policy review of 1971 had shifted the series out of the 5pm hour. Ironically though, the New Year 1978 repeat of ROBOTS saw part two (a merging of episodes three and four of the original) transmitted at 5:45 on January 1st — despite the graphic content. □



Isaac Asimov's Three Laws of Robotics:
1: A Robot may not injure a human being, or through inaction allow a human being to come to harm.
2: A Robot must obey the orders given him by human beings.
3: A Robot must protect its own existence.

Bill Sanderson

Radio Times

He made the rules – other SF writers follow them. He evolved a concept of Outer Space – and refuses to fly. Grand Master of Science Fiction, Isaac Asimov: *10.15*

Beauty and the beast

★ A GORGEOUS new girl and some robots which turn nasty make life tough for Dr Who and Leela in their new adventure.

At the start of the four-part story Robots Of Death (BBC 1, 6.20), the Tardis lands inside a huge but luxurious sand-mining machine.

In command is Toos, played by attractive actress Pamela Salem. She controls an army of worker robots—the most elegant aliens ever to appear in Dr Who.

But the handsome robots turn to evil.

PAMELA: Commander

ITV (GRANADA region) SATURDAY 29th JANUARY 1977

N E W S	THE INVADERS (U.S) rpt		NEW FACES variety	CELEBRITY SQUARES quiz		FILM Deadlock			LARRY GRAY-SON	N E W S	AQUARIUS Homage to Rubin-stein		F I L M	

5:00 5:30 6:00 6:30 7:00 7:30 8:00 8:30 9:00 9:30 10:00 10:30 11:00

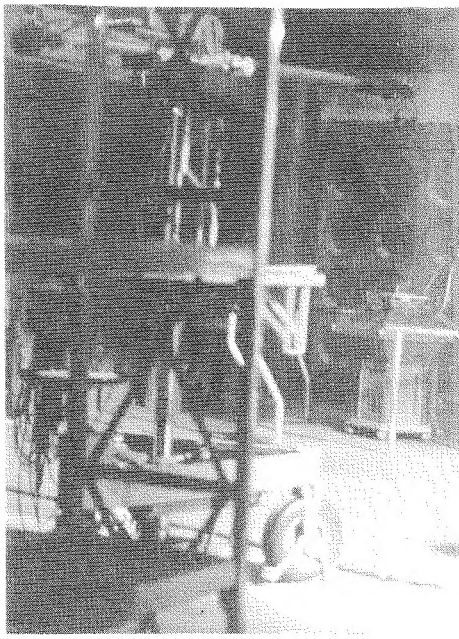
BBC 1

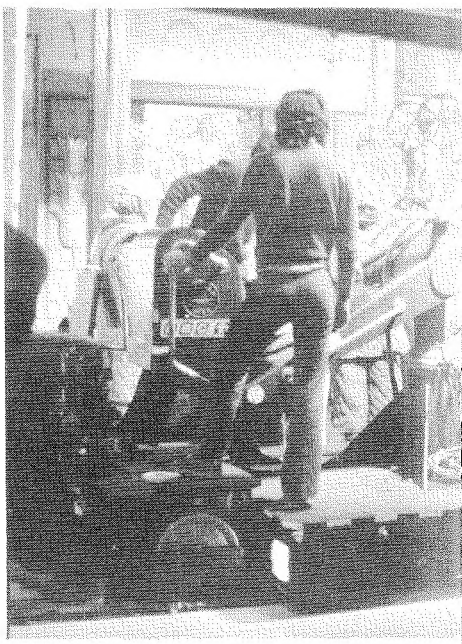
TAR-ZAN CART-OON	N E W S	JIM'LL FIX IT var'ty	DR. WHO RofD ep/1	FILM Doctor in Clover			RONNIE CORBETTs SAT.SPEC variety	STARSKY & HUTCH (U.S)	N E W S	FA CUP MATCH OF THE DAY 4th round			PAR KI NS ON	

5:00 5:30 6:00 6:30 7:00 7:30 8:00 8:30 9:00 9:30 10:00 10:30 11:00

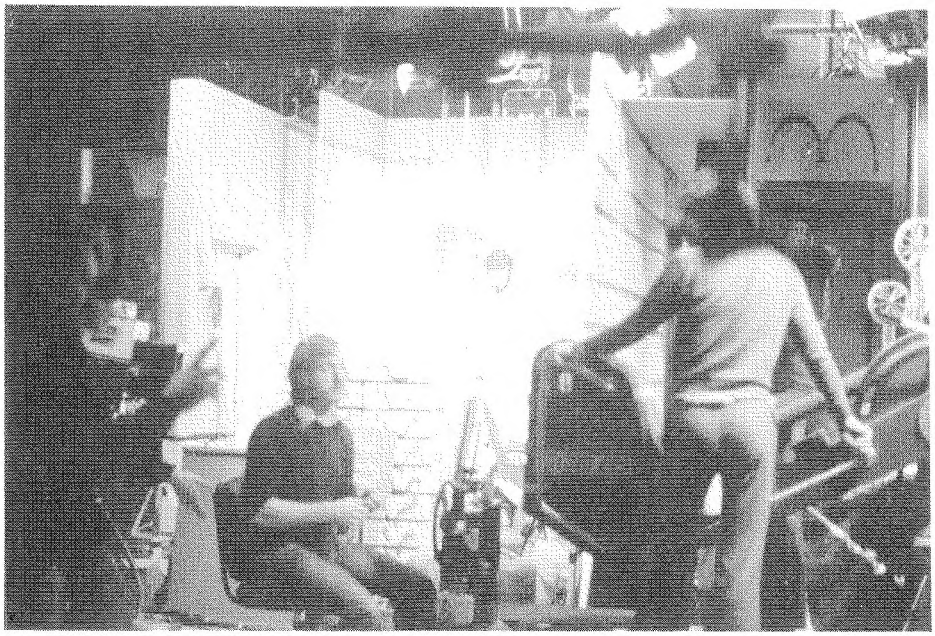
BBC 2

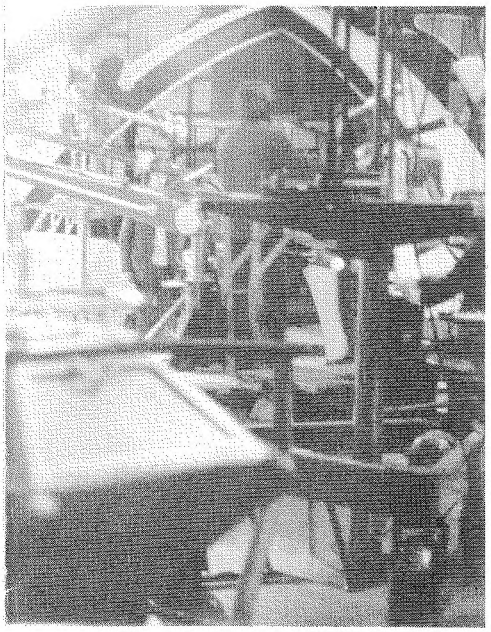
OMNIBUS - THE FRIENDLY INVAS'N 2/3 Jazz to Swing	N E W S	SIGHT AND SOUND: Rory Gallagher		MASH (US)	MOSCOW STATE CIRCUS variety			NET-WORK doc.	FILM The Conformist					

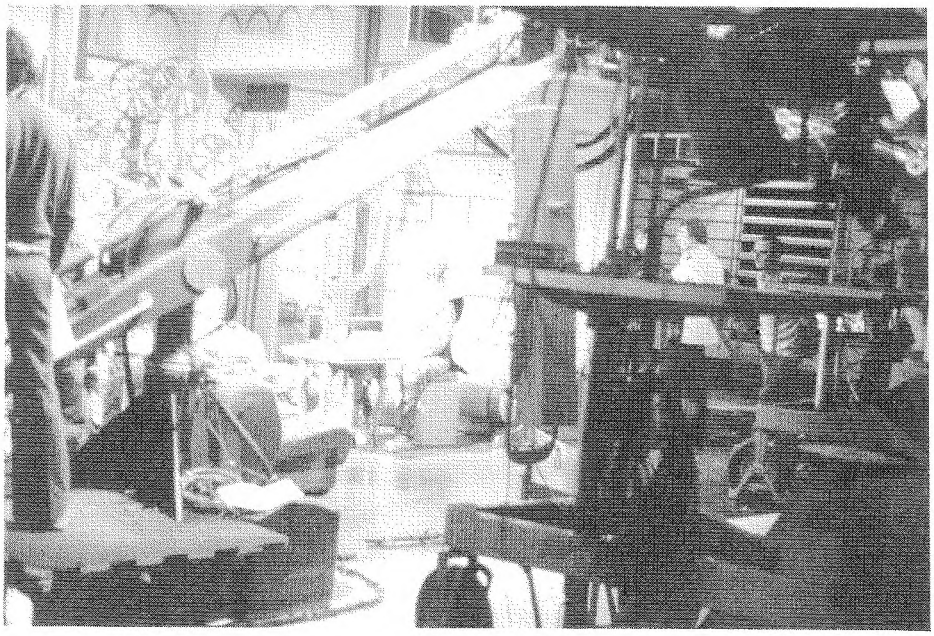


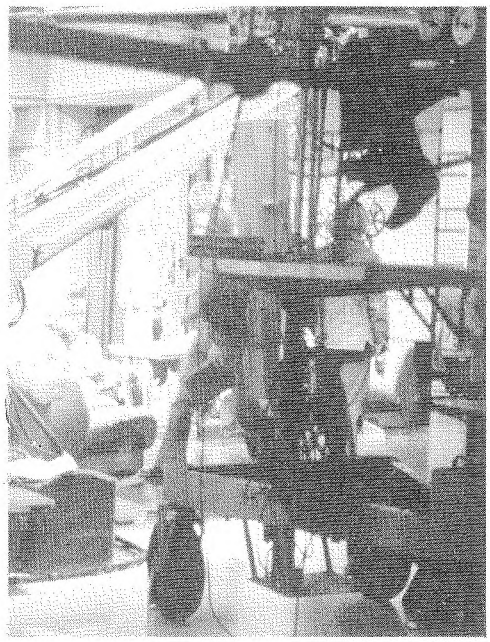


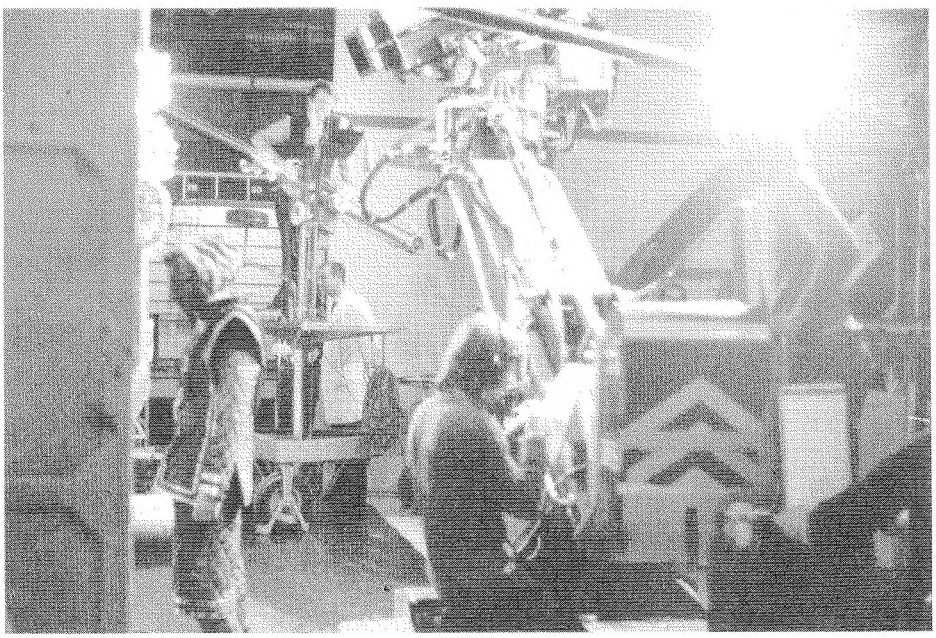
CTION EXTRA











(photos courtesy of Steve Balon)